



## SEQUENCE LISTING

Zhou, Ming-Ming  
Aggarwal, Aneel

&lt;120&gt; Methods of Identifying Modulators of Bromodomains

&lt;130&gt; 2459-1-003

&lt;140&gt; 09/510,314

&lt;141&gt; 2000-02-22

&lt;160&gt; 44

&lt;170&gt; PatentIn version 3.0

&lt;210&gt; 1

&lt;211&gt; 3014

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

ggggccgcgt	cgacgcggaa	aagaggccgt	ggggggcctc	ccagcgctgg	cagacaccgt	60
gaggctggca	gccgcccggca	cgcacaccta	gtccgcagtc	ccgaggaaca	tgtccgcagc	120
cagggcgcg	agcagagtc	cgggcaggag	aaccaaggga	gggcgtgtgc	tgtggcggcg	180
gcggcagcgg	cagcggagcc	gctagtcccc	tccctcctgg	gggagcagct	gccgccgctg	240
ccgccgccgc	caccaccatc	agcgcgcggg	gcccggccag	agcgagccgg	gcgagcggcg	300
cgctaggggg	agggcggggg	cggggagggg	ggtgggcgaa	gggggcggga	gggcgtgggg	360
ggaggggtct	gctctcccga	ctaccagagc	ccgagggaga	ccctggcggc	ggcggcggcg	420
cctgacactc	ggcgcctcct	gccgtgctcc	ggggcggcat	gtccgaggct	ggcggggccg	480
ggccggggcg	ctgcggggca	ggagccgggg	cagggggccg	gcccggggcg	ctgccccccg	540
agcctgcggc	gcttccgccc	gcgccccgcg	agggctcccc	ctgcgcgctg	gccgccgggg	600
gctcgggctc	ctgcgggtcc	gcgacggcag	tggctgcagc	gggcacggcc	gaaggaccgg	660
gagggcggtg	ctcggcccga	atcgccgtga	agaaagcgca	actacgctcc	gctccgcggg	720
ccaagaaact	ggagaaactc	ggagtgtact	ccgcctgcaa	ggccgaggag	tcttgtaa	780
gtaattggctg	gaaaaaccct	aacccctcac	ccactcccc	cagagccgac	ctgcagcaaa	840
taattgtcag	tctaacagaa	tcctgtcgga	gttgtagcca	tgccctagct	gctcatgttt	900
cccacctgga	gaatgtgtca	gaggaagaaa	tgaacagact	cctgggaata	gtattggatg	960
tggaatatct	ctttacctgt	gtccacaagg	aagaagatgc	agataccaaa	caagtttatt	1020
tctatctatt	taagctcttg	agaaagtcta	ttttacaaag	aggaaaacct	gtggttgaag	1080
gctctttgga	aaagaaaccc	ccatttgaaa	aacctagcat	tgaacagggt	gtgaataact	1140
ttgtgcagta	caaatttagt	cacctgccag	caaaagaaag	gcaaacaata	gttgagttgg	1200
caaaaatggt	cctaaaccgc	atcaactatt	ggcatctgga	ggcaccatct	caacgaagac	1260
tgcatctcc	caatgatgat	atctctggat	acaaagagaa	ctacacaagg	tggctgtggt	1320
actgcaacgt	gccacagttc	tgcgacagtc	tacctcggtg	cgaaccacac	caggtgtttg	1380
ggagaacatt	gcttcgctcg	gtcttcactg	ttatgaggcg	acaactcctg	gaacaagcaa	1440
gacaggaaaa	agataaaactg	cctcttgaaa	aacgaactct	aatcctcact	catttcccaa	1500
aatttctgtc	catgctagaa	gaagaagtat	atagtcaaaa	ctctcccatc	tgggatcagg	1560
atcttctctc	agcctcttcc	agaaccagcc	agctaggcat	ccaaacagtt	atcaatccac	1620
ctcctgtggc	tgggacaatt	tcatacaatt	caacctcatc	ttcccttgag	cagccaaacg	1680
cagggagcag	cagtcctgcc	tgcaaagcct	cttctggact	tgaggcaaac	ccaggagaaa	1740
agaggaaaat	gactgattct	catgttctgg	aggaggccaa	gaaaccccga	gttatggggg	1800
atattccgat	ggaattaatc	aacgagggtg	tgtctaccat	cacggaccct	gcagcaatgc	1860
ttggaccaga	gaccaatttt	ctgtcagcac	actcggccag	ggatgaggcg	gcaagggttg	1920
aagagcgcag	gggtgttaatt	gaatttcacg	tgggttgcaa	ttccctcaac	cagaaaccaa	1980
acaagaagat	cctgatgtgg	ctggttgccc	tacagaacgt	tttctccac	cagctgcccc	2040
gaatgcca	agaatacatc	acacggctcg	tctttgacct	gaaacacaaa	acccttgctt	2100
taattaaaga	tggccgtggt	attggtggta	tgtgtttccg	tatgttccca	tctcaaggat	2160
tcacagagat	tgtcttctgt	gctgtaacct	caaattgagca	agtcaagggc	tatggaacac	2220
acctgatgaa	tcatttgaaa	gaatatcaca	taaagcatga	catcctgaac	ttcctcacat	2280
atgcagatga	atatgcaatt	ggatacttta	agaaacaggg	tttctccaaa	gaaattaaaa	2340
tacctaaaac	caaatatggt	ggctatatca	aggattatga	aggagccact	ttaatgggat	2400
gtgagctaaa	tccacggatc	ccgtacacag	aattttctgt	catcattaaa	aagcagaagg	2460
agataattaa	aaaactgatt	gaaagaaaac	aggcacaatt	tcgaaaagtt	tacctggac	2520

tttcatgttt	taaagatgga	gttcgacaga	ttcctataga	aagcattcct	ggaattagag	2580
agacaggctg	gaaaccgagt	ggaaaagaga	aaagtaaaga	gccagagac	cctgaccagc	2640
tttacagcac	gctcaagagc	atcctccagc	aggtgaagag	ccatcaaagc	gcttggccct	2700
tcatggaacc	tgtgaagaga	acagaagctc	caggatatta	tgaagttata	aggttcccca	2760
tggatctgaa	aaccatgagt	gaacgcctca	agaataggta	ctacgtgtct	aagaaattat	2820
tcatggcaga	cttacagcga	gtctttacca	attgcaaaga	gtacaacgcc	gctgagagtg	2880
aatactacaa	atgtgccaat	atcctggaga	aattcttctt	cagtaaaatt	aaggaagctg	2940
gattaattga	caagtgattt	tttttcccc	tctgcttctt	agaaactcac	caagcagtgt	3000
gcctaaagca	aggt					3014

<210> 2  
 <211> 832  
 <212> PRT  
 <213> Homo sapiens

<400> 2

Met	Ser	Glu	Ala	Gly	Gly	Ala	Gly	Pro	Gly	Gly	Cys	Gly	Ala	Gly	Ala
1				5				10					15		
Gly	Ala	Gly	Ala	Gly	Pro	Gly	Ala	Leu	Pro	Pro	Gln	Pro	Ala	Ala	Leu
			20					25					30		
Pro	Pro	Ala	Pro	Pro	Gln	Gly	Ser	Pro	Cys	Ala	Ala	Ala	Ala	Gly	Gly
		35					40					45			
Ser	Gly	Ala	Cys	Gly	Pro	Ala	Thr	Ala	Val	Ala	Ala	Ala	Gly	Thr	Ala
	50					55				60					
Glu	Gly	Pro	Gly	Gly	Gly	Gly	Ser	Ala	Arg	Ile	Ala	Val	Lys	Lys	Ala
65					70					75					80
Gln	Leu	Arg	Ser	Ala	Pro	Arg	Ala	Lys	Lys	Leu	Glu	Lys	Leu	Gly	Val
				85					90					95	
Tyr	Ser	Ala	Cys	Lys	Ala	Glu	Glu	Ser	Cys	Lys	Cys	Asn	Gly	Trp	Lys
			100					105					110		
Asn	Pro	Asn	Pro	Ser	Pro	Thr	Pro	Pro	Arg	Ala	Asp	Leu	Gln	Gln	Ile
		115					120					125			
Ile	Val	Ser	Leu	Thr	Glu	Ser	Cys	Arg	Ser	Cys	Ser	His	Ala	Leu	Ala
	130					135					140				
Ala	His	Val	Ser	His	Leu	Glu	Asn	Val	Ser	Glu	Glu	Glu	Met	Asn	Arg
145					150					155					160
Leu	Leu	Gly	Ile	Val	Leu	Asp	Val	Glu	Tyr	Leu	Phe	Thr	Cys	Val	His
			165						170					175	
Lys	Glu	Glu	Asp	Ala	Asp	Thr	Lys	Gln	Val	Tyr	Phe	Tyr	Leu	Phe	Lys
			180					185					190		
Leu	Leu	Arg	Lys	Ser	Ile	Leu	Gln	Arg	Gly	Lys	Pro	Val	Val	Glu	Gly
		195					200					205			
Ser	Leu	Glu	Lys	Lys	Pro	Pro	Phe	Glu	Lys	Pro	Ser	Ile	Glu	Gln	Gly
	210					215					220				
Val	Asn	Asn	Phe	Val	Gln	Tyr	Lys	Phe	Ser	His	Leu	Pro	Ala	Lys	Glu
225					230					235					240
Arg	Gln	Thr	Ile	Val	Glu	Leu	Ala	Lys	Met	Phe	Leu	Asn	Arg	Ile	Asn
			245						250					255	

Tyr Trp His Leu Glu Ala Pro Ser Gln Arg Arg Leu Arg Ser Pro Asn  
260 265 270  
Asp Asp Ile Ser Gly Tyr Lys Glu Asn Tyr Thr Arg Trp Leu Cys Tyr  
275 280 285  
Cys Asn Val Pro Gln Phe Cys Asp Ser Leu Pro Arg Tyr Glu Thr Thr  
290 295 300  
Gln Val Phe Gly Arg Thr Leu Leu Arg Ser Val Phe Thr Val Met Arg  
305 310 315 320  
Arg Gln Leu Leu Glu Gln Ala Arg Gln Glu Lys Asp Lys Leu Pro Leu  
325 330 335  
Glu Lys Arg Thr Leu Ile Leu Thr His Phe Pro Lys Phe Leu Ser Met  
340 345 350  
Leu Glu Glu Glu Val Tyr Ser Gln Asn Ser Pro Ile Trp Asp Gln Asp  
355 360 365  
Phe Leu Ser Ala Ser Ser Arg Thr Ser Gln Leu Gly Ile Gln Thr Val  
370 375 380  
Ile Asn Pro Pro Pro Val Ala Gly Thr Ile Ser Tyr Asn Ser Thr Ser  
385 390 395 400  
Ser Ser Leu Glu Gln Pro Asn Ala Gly Ser Ser Ser Pro Ala Cys Lys  
405 410 415  
Ala Ser Ser Gly Leu Glu Ala Asn Pro Gly Glu Lys Arg Lys Met Thr  
420 425 430  
Asp Ser His Val Leu Glu Glu Ala Lys Lys Pro Arg Val Met Gly Asp  
435 440 445  
Ile Pro Met Glu Leu Ile Asn Glu Val Met Ser Thr Ile Thr Asp Pro  
450 455 460  
Ala Ala Met Leu Gly Pro Glu Thr Asn Phe Leu Ser Ala His Ser Ala  
465 470 475 480  
Arg Asp Glu Ala Ala Arg Leu Glu Glu Arg Arg Gly Val Ile Glu Phe  
485 490 495  
His Val Val Gly Asn Ser Leu Asn Gln Lys Pro Asn Lys Lys Ile Leu  
500 505 510  
Met Trp Leu Val Gly Leu Gln Asn Val Phe Ser His Gln Leu Pro Arg  
515 520 525  
Met Pro Lys Glu Tyr Ile Thr Arg Leu Val Phe Asp Pro Lys His Lys  
530 535 540  
Thr Leu Ala Leu Ile Lys Asp Gly Arg Val Ile Gly Gly Ile Cys Phe  
545 550 555 560  
Arg Met Phe Pro Ser Gln Gly Phe Thr Glu Ile Val Phe Cys Ala Val  
565 570 575  
Thr Ser Asn Glu Gln Val Lys Gly Tyr Gly Thr His Leu Met Asn His  
580 585 590

Leu Lys Glu Tyr His Ile Lys His Asp Ile Leu Asn Phe Leu Thr Tyr  
 595 600  
 Ala Asp Glu Tyr Ala Ile Gly Tyr Phe Lys Lys Gln Gly Phe Ser Lys  
 610 615 620  
 Glu Ile Lys Ile Pro Lys Thr Lys Tyr Val Gly Tyr Ile Lys Asp Tyr  
 625 630 635 640  
 Glu Gly Ala Thr Leu Met Gly Cys Glu Leu Asn Pro Arg Ile Pro Tyr  
 645 650 655  
 Thr Glu Phe Ser Val Ile Ile Lys Lys Gln Lys Glu Ile Ile Lys Lys  
 660 665 670  
 Leu Ile Glu Arg Lys Gln Ala Gln Ile Arg Lys Val Tyr Pro Gly Leu  
 675 680 685  
 Ser Cys Phe Lys Asp Gly Val Arg Gln Ile Pro Ile Glu Ser Ile Pro  
 690 695 700  
 Gly Ile Arg Glu Thr Gly Trp Lys Pro Ser Gly Lys Glu Lys Ser Lys  
 705 710 715 720  
 Glu Pro Arg Asp Pro Asp Gln Leu Tyr Ser Thr Leu Lys Ser Ile Leu  
 725 730 735  
 Gln Gln Val Lys Ser His Gln Ser Ala Trp Pro Phe Met Glu Pro Val  
 740 745 750  
 Lys Arg Thr Glu Ala Pro Gly Tyr Tyr Glu Val Ile Arg Phe Pro Met  
 755 760 765  
 Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn Arg Tyr Tyr Val Ser  
 770 775 780  
 Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val Phe Thr Asn Cys Lys  
 785 790 795 800  
 Glu Tyr Asn Ala Ala Glu Ser Glu Tyr Tyr Lys Cys Ala Asn Ile Leu  
 805 810 815  
 Glu Lys Phe Phe Phe Ser Lys Ile Lys Glu Ala Gly Leu Ile Asp Lys  
 820 825 830

<210> 3

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic bromodomain peptide

<220>

<221> MOD\_RES

<222> (2)..(4)

<223> Any amino acid; this range may encompass 2-3 residues

<220>

<221> MOD\_RES

<222> (6)..(13)

<223> Any amino acid; this range may encompass 5-8 residues

<220>  
 <221> MOD\_RES  
 <222> (14)  
 <223> Pro, Lys or His

<220>  
 <221> MOD\_RES  
 <222> (15)  
 <223> Any amino acid

<220>  
 <221> MOD\_RES  
 <222> (17)  
 <223> Tyr, Phe or His

<220>  
 <221> MOD\_RES  
 <222> (18)..(22)  
 <223> Any amino acid

<220>  
 <221> MOD\_RES  
 <222> (24)  
 <223> Met, Ile or Val

<400> 3  
 Phe Xaa Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr  
 1 5 10 15  
 Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Asp  
 20 25

<210> 4  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic bromodomain peptide

<220>  
 <221> MOD\_RES  
 <222> (6)..(6)  
 <223> acetyl lysine

<400> 4  
 Ile Ser Tyr Gly Arg Xaa Lys Arg Arg Gln Arg Arg  
 1 5 10

<210> 5  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic bromodomain peptide

<220>  
 <221> MOD\_RES  
 <222> (8)..(8)  
 <223> acetyl lysine

<400> 5  
Ala Arg Lys Ser Thr Gly Gly Xaa Ala Pro Arg Lys Gln Leu  
1 5 10

<210> 6  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic bromodomain peptide

<220>  
<221> MOD\_RES  
<222> (8)..(8)  
<223> acetyl lysine

<400> 6  
Gln Ser Thr Ser Arg His Lys Xaa Leu Met Phe Lys Thr Glu  
1 5 10

<210> 7  
<211> 110  
<212> PRT  
<213> Homo sapiens

<220>  
<223> bromodomain peptide

<400> 7

Ser Lys Glu Pro Arg Asp Pro Asp Gln Leu Tyr Ser Thr Leu Lys Ser  
1 5 10 15  
Ile Leu Gln Gln Val Lys Ser His Gln Ser Ala Trp Pro Phe Met Glu  
20 25 30  
Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr Tyr Glu Val Ile Arg Ser  
35 40 45  
Pro Met Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn Arg Tyr Tyr  
50 55 60  
Val Ser Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val Phe Thr Asn  
65 70 75 80  
Cys Lys Glu Tyr Asn Ala Pro Glu Ser Glu Tyr Tyr Lys Cys Ala Asn  
85 90 95  
Ile Leu Glu Lys Phe Phe Phe Ser Lys Ile Lys Glu Ala Gly  
100 105 110

<210> 8  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 8

Gly Lys Glu Leu Lys Asp Pro Asp Gln Leu Tyr Thr Thr Leu Lys Asn  
 1 5 10 15  
 Leu Leu Ala Gln Ile Lys Ser His Pro Ser Ala Trp Pro Phe Met Glu  
 20 25 30  
 Pro Val Lys Lys Ser Glu Ala Pro Asp Tyr Tyr Glu Val Ile Arg Phe  
 35 40 45  
 Pro Ile Asp Leu Lys Thr Met Thr Glu Arg Leu Arg Ser Arg Tyr Tyr  
 50 55 60  
 Val Thr Arg Lys Leu Phe Val Ala Asp Leu Gln Arg Val Ile Ala Asn  
 65 70 75 80  
 Cys Arg Glu Tyr Asn Pro Pro Asp Ser Glu Tyr Cys Arg Cys Ala Ser  
 85 90 95  
 Ala Leu Glu Lys Phe Phe Tyr Phe Lys Leu Lys Glu Gly Gly  
 100 105 110

<210> 9  
 <211> 109  
 <212> PRT  
 <213> Tetrahymena thermophila

<400> 9

Leu Lys Lys Ser Lys Glu Arg Ser Phe Asn Leu Gln Cys Ala Asn Val  
 1 5 10 15  
 Ile Glu Asn Met Lys Arg His Lys Gln Ser Trp Pro Phe Leu Asp Pro  
 20 25 30  
 Val Asn Lys Asp Asp Val Pro Asp Tyr Tyr Asp Val Ile Thr Asp Pro  
 35 40 45  
 Ile Asp Ile Lys Ala Ile Glu Lys Lys Leu Gln Asn Asn Gln Tyr Val  
 50 55 60  
 Asp Lys Asp Gln Phe Ile Lys Asp Val Lys Arg Ile Phe Thr Asn Ala  
 65 70 75 80  
 Lys Ile Tyr Asn Gln Pro Asp Thr Ile Tyr Tyr Lys Ala Ala Lys Glu  
 85 90 95  
 Leu Glu Asp Phe Val Glu Pro Tyr Leu Thr Lys Leu Lys  
 100 105

<210> 10  
 <211> 109  
 <212> PRT  
 <213> Saccharomyces cerevisiae

<400> 10

Ala Gln Arg Pro Lys Arg Gly Pro His Asp Ala Ala Ile Gln Asn Ile  
 1 5 10 15  
 Leu Thr Glu Leu Gln Asn His Ala Ala Ala Trp Pro Phe Leu Gln Pro  
 20 25 30

Val Asn Lys Glu Glu Val Pro Asp Tyr Tyr Asp Phe Ile Lys Glu Pro  
           35                          40                          45  
 Met Asp Leu Ser Thr Met Glu Ile Lys Leu Glu Ser Asn Lys Tyr Gln  
       50                          55                          60  
 Lys Met Glu Asp Phe Ile Tyr Asp Ala Arg Leu Val Phe Asn Asn Cys  
   65                          70                          75                          80  
 Arg Met Tyr Asn Gly Glu Asn Thr Ser Tyr Tyr Lys Tyr Ala Asn Arg  
                           85                          90                          95  
 Leu Glu Lys Phe Phe Asn Asn Lys Val Lys Glu Ile Pro  
                   100                          105

<210> 11  
 <211> 112  
 <212> PRT  
 <213> Homo sapiens

<400> 11

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr  
 1                  5                          10                          15  
 Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln  
                   20                          25                          30  
 Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val  
                   35                          40                          45  
 Lys Ser Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly  
       50                          55                          60  
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Ile Trp Leu Met Phe  
   65                          70                          75                          80  
 Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Tyr  
                   85                          90                          95  
 Cys Ser Lys Leu Ser Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met  
                   100                          105                          110

<210> 12  
 <211> 112  
 <212> PRT  
 <213> Homo sapiens

<400> 12

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr  
 1                  5                          10                          15  
 Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln  
                   20                          25                          30  
 Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val  
                   35                          40                          45  
 Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly  
       50                          55                          60



Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Val Trp Leu Met Phe  
65 70 75 80  
Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Phe  
85 90 95  
Cys Ser Lys Leu Ala Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met  
100 105 110

<210> 13  
<211> 112  
<212> PRT  
<213> Mus musculus

<400> 13

Lys Lys Ile Phe Lys Pro Glu Glu Leu Arg Gln Ala Leu Met Pro Thr  
1 5 10 15  
Leu Glu Ala Leu Tyr Arg Gln Asp Pro Glu Ser Leu Pro Phe Arg Gln  
20 25 30  
Pro Val Asp Pro Gln Leu Leu Gly Ile Pro Asp Tyr Phe Asp Ile Val  
35 40 45  
Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly  
50 55 60  
Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Val Arg Leu Met Phe  
65 70 75 80  
Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Phe  
85 90 95  
Cys Ser Lys Leu Ala Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met  
100 105 110

<210> 14  
<211> 111  
<212> PRT  
<213> Caenorhabditis elegans

<400> 14

Asp Thr Val Phe Ser Gln Glu Asp Leu Ile Lys Phe Leu Leu Pro Val  
1 5 10 15  
Trp Glu Lys Leu Asp Lys Ser Glu Asp Ala Ala Pro Phe Arg Val Pro  
20 25 30  
Val Asp Ala Lys Leu Leu Asn Ile Pro Asp Tyr His Glu Ile Ile Lys  
35 40 45  
Arg Pro Met Asp Leu Glu Thr Val His Lys Lys Leu Tyr Ala Gly Gln  
50 55 60  
Tyr Gln Asn Ala Gly Gln Phe Cys Asp Asp Ile Trp Leu Met Leu Asp  
65 70 75 80  
Asn Ala Trp Leu Tyr Asn Arg Lys Asn Ser Lys Val Tyr Lys Tyr Gly  
85 90 95

Leu Lys Leu Ser Glu Met Phe Val Ser Glu Met Asp Pro Val Met  
100 105 110

<210> 15  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 15

Arg Arg Arg Thr Asp Pro Met Val Thr Leu Ser Ser Ile Leu Glu Ser  
1 5 10 15  
Ile Ile Asn Asp Met Arg Asp Leu Pro Asn Thr Tyr Pro Phe His Thr  
20 25 30  
Pro Val Asn Ala Lys Val Val Lys Asp Tyr Tyr Lys Ile Ile Thr Arg  
35 40 45  
Pro Met Asp Leu Gln Thr Leu Arg Glu Asn Val Arg Lys Arg Leu Tyr  
50 55 60  
Pro Ser Arg Glu Glu Phe Arg Glu His Leu Glu Leu Ile Val Lys Asn  
65 70 75 80  
Ser Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser Gln  
85 90 95  
Ser Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu  
100 105 110

<210> 16  
<211> 110  
<212> PRT  
<213> Mesocricetus auratus

<400> 16

Arg Arg Arg Thr Asp Pro Met Val Thr Leu Ser Ser Ile Leu Glu Ser  
1 5 10 15  
Ile Ile Asn Asp Met Arg Asp Leu Pro Asn Thr Tyr Pro Phe His Thr  
20 25 30  
Pro Val Asn Ala Lys Val Val Lys Asp Tyr Tyr Lys Ile Ile Thr Arg  
35 40 45  
Pro Met Asp Leu Gln Thr Leu Arg Glu Asn Val Arg Lys Arg Leu Tyr  
50 55 60  
Pro Ser Arg Glu Glu Phe Arg Glu His Leu Glu Leu Ile Val Lys Asn  
65 70 75 80  
Ser Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser Gln  
85 90 95  
Ser Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu  
100 105 110

<210> 17

<211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 17

Leu Leu Asp Asp Asp Asp Gln Val Ala Phe Ser Phe Ile Leu Asp Asn  
 1 5 10 15  
 Ile Val Thr Gln Lys Met Met Ala Val Pro Asp Ser Trp Pro Phe His  
 20 25 30  
 His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val  
 35 40 45  
 Asn Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys  
 50 55 60  
 Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala  
 65 70 75 80  
 Asn Ser Val Lys Tyr Asn Gly Pro Glu Ser Gln Tyr Thr Lys Thr Ala  
 85 90 95  
 Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp  
 100 105 110

<210> 18  
 <211> 111  
 <212> PRT  
 <213> Mesocricetus auratus

<400> 18

Leu Leu Asp Asp Asp Asp Gln Val Ala Phe Ser Phe Ile Leu Asp Asn  
 1 5 10 15  
 Ile Val Thr Gln Lys Met Met Ala Val Pro Asp Ser Trp Pro Phe His  
 20 25 30  
 His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val  
 35 40 45  
 Ser Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys  
 50 55 60  
 Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala  
 65 70 75 80  
 Asn Ser Val Lys Tyr Asn Gly Ser Glu Ser Gln Tyr Thr Lys Thr Ala  
 85 90 95  
 Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp  
 100 105 110

<210> 19  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 19

Lys Pro Gly Arg Val Thr Asn Gln Leu Gln Tyr Leu His Lys Val Val  
 1 5 10 15  
 Met Lys Ala Leu Trp Lys His Gln Phe Ala Trp Pro Phe Arg Gln Pro  
 20 25 30  
 Val Asp Ala Val Lys Leu Gly Leu Pro Asp Tyr His Lys Ile Ile Lys  
 35 40 45  
 Gln Pro Met Asp Met Gly Thr Ile Lys Arg Arg Leu Glu Asn Asn Tyr  
 50 55 60  
 Tyr Trp Ala Ala Ser Glu Cys Met Gln Asp Phe Asn Thr Met Phe Thr  
 65 70 75 80  
 Asn Cys Tyr Ile Tyr Asn Lys Pro Thr Asp Asp Ile Val Leu Met Ala  
 85 90 95  
 Gln Thr Leu Glu Lys Ile Phe Leu Gln Lys Val Ala Ser Met Pro  
 100 105 110

<210> 20  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 20

Lys Pro Gly Arg Lys Thr Asn Gln Leu Gln Tyr Met Gln Asn Val Val  
 1 5 10 15  
 Val Lys Thr Leu Trp Lys His Gln Phe Ala Trp Pro Phe Tyr Gln Pro  
 20 25 30  
 Val Asp Ala Ile Lys Leu Asn Leu Pro Asp Tyr His Lys Ile Ile Lys  
 35 40 45  
 Asn Pro Met Asp Met Gly Thr Ile Lys Lys Arg Leu Glu Asn Asn Tyr  
 50 55 60  
 Tyr Trp Ser Ala Ser Glu Cys Met Gln Asp Phe Asn Thr Met Phe Thr  
 65 70 75 80  
 Asn Cys Tyr Ile Tyr Asn Lys Pro Thr Asp Asp Ile Val Leu Met Ala  
 85 90 95  
 Gln Ala Leu Glu Lys Ile Phe Leu Gln Lys Val Ala Gln Met Pro  
 100 105 110

<210> 21  
 <211> 111  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 21

Arg Pro Gly Arg Asn Thr Asn Gln Leu Gln Tyr Leu Ile Lys Thr Val  
 1 5 10 15  
 Met Lys Val Ile Trp Lys His His Phe Ser Trp Pro Phe Gln Gln Pro  
 20 25 30

Val Asp Ala Lys Lys Leu Asn Leu Pro Asp Tyr His Lys Ile Ile Lys  
35 40 45  
Gln Pro Met Asp Met Gly Thr Ile Lys Lys Arg Leu Glu Asn Asn Tyr  
50 55 60  
Tyr Trp Ser Ala Lys Glu Thr Ile Gln Asp Phe Asn Thr Met Phe Asn  
65 70 75 80  
Asn Cys Tyr Val Tyr Asn Lys Pro Gly Glu Asp Val Val Val Met Ala  
85 90 95  
Gln Thr Leu Glu Lys Val Phe Leu Gln Lys Ile Glu Ser Met Pro  
100 105 110

<210> 22  
<211> 109  
<212> PRT  
<213> *Saccharomyces cerevisiae*

<400> 22

Asn Pro Ile Pro Lys His Gln Gln Lys His Ala Leu Leu Ala Ile Lys  
1 5 10 15  
Ala Val Lys Arg Leu Lys Asp Ala Arg Pro Phe Leu Gln Pro Val Asp  
20 25 30  
Pro Val Lys Leu Asp Ile Pro Phe Tyr Phe Asn Tyr Ile Lys Arg Pro  
35 40 45  
Met Asp Leu Ser Thr Ile Glu Arg Lys Leu Asn Val Gly Ala Tyr Glu  
50 55 60  
Val Pro Glu Gln Ile Thr Glu Asp Phe Asn Leu Met Val Asn Asn Ser  
65 70 75 80  
Ile Lys Phe Asn Gly Pro Asn Ala Gly Ile Ser Gln Met Ala Arg Asn  
85 90 95  
Ile Gln Ala Ser Phe Glu Lys His Met Leu Asn Met Pro  
100 105

<210> 23  
<211> 113  
<212> PRT  
<213> *Homo sapiens*

<400> 23

Lys Lys Gly Lys Leu Ser Glu Gln Leu Lys His Cys Asn Gly Ile Leu  
1 5 10 15  
Lys Glu Leu Leu Ser Lys Lys His Ala Ala Tyr Ala Trp Pro Phe Tyr  
20 25 30  
Lys Pro Val Asp Ala Ser Ala Leu Gly Leu His Asp Tyr His Asp Ile  
35 40 45  
Ile Lys His Pro Met Asp Leu Ser Thr Val Lys Arg Lys Met Glu Asn  
50 55 60

Arg Asp Tyr Arg Asp Ala Gln Glu Phe Ala Ala Asp Val Arg Leu Met  
65 70 75 80  
Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Asp Val Val Ala  
85 90 95  
Met Ala Arg Lys Leu Gln Asp Val Phe Glu Phe Arg Tyr Ala Lys Met  
100 105 110

Pro

<210> 24  
<211> 113  
<212> PRT  
<213> Homo sapiens

<400> 24

Lys Lys Gly Lys Leu Ser Glu His Leu Arg Tyr Cys Asp Ser Ile Leu  
1 5 10 15  
Arg Glu Met Leu Ser Lys Lys His Ala Ala Tyr Ala Trp Pro Phe Tyr  
20 25 30  
Lys Pro Val Asp Ala Glu Ala Leu Glu Leu His Asp Tyr His Asp Ile  
35 40 45  
Ile Lys His Pro Met Asp Leu Ser Thr Val Lys Arg Lys Met Asp Gly  
50 55 60  
Arg Glu Tyr Pro Asp Ala Gln Gly Phe Ala Ala Asp Val Arg Leu Met  
65 70 75 80  
Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Glu Val Val Ala  
85 90 95  
Met Ala Arg Lys Leu Gln Asp Val Phe Glu Met Arg Phe Ala Lys Met  
100 105 110

Pro

<210> 25  
<211> 113  
<212> PRT  
<213> Drosophila melanogaster

<400> 25

Asn Lys Glu Lys Leu Ser Asp Ala Leu Lys Ser Cys Asn Glu Ile Leu  
1 5 10 15  
Lys Glu Leu Phe Ser Lys Lys His Ser Gly Tyr Ala Trp Pro Phe Tyr  
20 25 30  
Lys Pro Val Asp Ala Glu Met Leu Gly Leu His Asp Tyr His Asp Ile  
35 40 45  
Ile Lys Lys Pro Met Asp Leu Gly Thr Val Lys Arg Lys Met Asp Asn  
50 55 60  
Arg Glu Tyr Lys Ser Ala Pro Glu Phe Ala Ala Asp Val Arg Leu Ile  
65 70 75 80

Phe Thr Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Asp Val Val Ala  
85 90 95  
Met Gly Arg Lys Leu Gln Asp Val Phe Glu Met Arg Tyr Ala Asn Ile  
100 105 110

Pro

<210> 26  
<211> 113  
<212> PRT  
<213> *Saccharomyces cerevisiae*

<400> 26

Lys Ser Lys Arg Leu Gln Gln Ala Met Lys Phe Cys Gln Ser Val Leu  
1 5 10 15  
Lys Glu Leu Met Ala Lys Lys His Ala Ser Tyr Asn Tyr Pro Phe Leu  
20 25 30  
Glu Pro Val Asp Pro Val Ser Met Asn Leu Pro Thr Tyr Phe Asp Tyr  
35 40 45  
Val Lys Glu Pro Met Asp Leu Gly Thr Ile Ala Lys Lys Leu Asn Asp  
50 55 60  
Trp Gln Tyr Gln Thr Met Glu Asp Phe Glu Arg Glu Val Arg Leu Val  
65 70 75 80  
Phe Lys Asn Cys Tyr Thr Phe Asn Pro Asp Gly Thr Ile Val Asn Met  
85 90 95  
Met Gly His Arg Leu Glu Glu Val Phe Asn Ser Lys Trp Ala Asp Arg  
100 105 110

Pro

<210> 27  
<211> 108  
<212> PRT  
<213> *Homo sapiens*

<400> 27

Met Glu Met Gln Leu Thr Pro Phe Leu Ile Leu Leu Arg Lys Thr Leu  
1 5 10 15  
Glu Gln Leu Gln Glu Lys Asp Thr Gly Asn Ile Phe Ser Glu Pro Val  
20 25 30  
Pro Leu Ser Glu Val Pro Asp Tyr Leu Asp His Ile Lys Lys Pro Met  
35 40 45  
Asp Phe Phe Thr Met Lys Gln Asn Leu Glu Ala Tyr Arg Tyr Leu Asn  
50 55 60  
Phe Asp Asp Phe Glu Glu Asp Phe Asn Leu Ile Val Ser Asn Cys Leu  
65 70 75 80  
Lys Tyr Asn Ala Lys Asp Thr Ile Phe Tyr Arg Ala Ala Val Arg Leu





<210> 30  
 <211> 112  
 <212> PRT  
 <213> Gallus gallus

<400> 30

Ser Ser Pro Gly Tyr Leu Lys Glu Ile Leu Glu Gln Leu Leu Glu Ala  
 1 5 10 15  
 Val Ala Val Ala Thr Asn Pro Ser Gly Arg Leu Ile Ser Glu Leu Phe  
 20 25 30  
 Gln Lys Leu Pro Ser Lys Val Gln Tyr Pro Asp Tyr Tyr Ala Ile Ile  
 35 40 45  
 Lys Glu Pro Ile Asp Leu Lys Thr Ile Ala Gln Arg Ile Gln Asn Gly  
 50 55 60  
 Thr Tyr Lys Ser Ile His Ala Met Ala Lys Asp Ile Asp Leu Leu Ala  
 65 70 75 80  
 Lys Asn Ala Lys Thr Tyr Asn Glu Pro Gly Ser Gln Val Phe Lys Asp  
 85 90 95  
 Ala Asn Ala Ile Lys Lys Ile Phe Asn Met Lys Lys Ala Glu Ile Glu  
 100 105 110

<210> 31  
 <211> 112  
 <212> PRT  
 <213> Gallus gallus

<400> 31

Thr Ser Phe Met Asp Thr Ser Asn Pro Leu Tyr Gln Leu Tyr Asp Thr  
 1 5 10 15  
 Val Arg Ser Cys Arg Asn Asn Gln Gly Gln Leu Ile Ser Glu Pro Phe  
 20 25 30  
 Phe Gln Leu Pro Ser Lys Lys Lys Tyr Pro Asp Tyr Tyr Gln Gln Ile  
 35 40 45  
 Lys Thr Pro Ile Ser Leu Gln Gln Ile Arg Ala Lys Leu Lys Asn His  
 50 55 60  
 Glu Tyr Glu Thr Leu Asp Gln Leu Glu Ala Asp Leu Asn Leu Met Phe  
 65 70 75 80  
 Glu Asn Ala Lys Arg Tyr Asn Val Pro Asn Ser Ala Ile Tyr Lys Arg  
 85 90 95  
 Val Leu Lys Met Gln Gln Val Met Gln Ala Lys Lys Lys Glu Leu Ala  
 100 105 110

<210> 32  
 <211> 113  
 <212> PRT  
 <213> Gallus gallus

<400> 32

Ser Lys Lys Asn Met Arg Lys Gln Arg Met Lys Ile Leu Tyr Asn Ala  
1 5 10 15  
Val Leu Glu Ala Arg Glu Ser Gly Thr Gln Arg Arg Leu Cys Asp Leu  
20 25 30  
Phe Met Val Lys Pro Ser Lys Lys Asp Tyr Pro Asp Tyr Tyr Lys Ile  
35 40 45  
Ile Leu Glu Pro Met Asp Leu Lys Met Ile Glu His Asn Ile Arg Asn  
50 55 60  
Asp Lys Tyr Val Gly Glu Glu Ala Met Ile Asp Asp Met Lys Leu Met  
65 70 75 80  
Phe Arg Asn Ala Arg His Tyr Asn Glu Glu Gly Ser Gln Val Tyr Asn  
85 90 95  
Asp Ala His Met Leu Glu Lys Ile Leu Lys Glu Lys Arg Lys Glu Leu  
100 105 110

Gly

<210> 33  
<211> 115  
<212> PRT  
<213> Gallus gallus

<400> 33

Lys Lys Ser Lys Tyr Met Thr Pro Met Gln Gln Lys Leu Asn Glu Val  
1 5 10 15  
Tyr Glu Ala Val Lys Asn Tyr Thr Asp Lys Arg Gly Arg Arg Leu Ser  
20 25 30  
Ala Ile Phe Leu Arg Leu Pro Ser Arg Ser Glu Leu Pro Asp Tyr Tyr  
35 40 45  
Ile Thr Ile Lys Lys Pro Val Asp Met Glu Lys Ile Arg Ser His Met  
50 55 60  
Met Ala Asn Lys Tyr Gln Asp Ile Asp Ser Met Val Glu Asp Phe Val  
65 70 75 80  
Met Met Phe Asn Asn Ala Cys Thr Tyr Asn Glu Pro Glu Ser Leu Ile  
85 90 95  
Tyr Lys Asp Ala Leu Val Leu His Lys Val Leu Leu Glu Thr Arg Arg  
100 105 110

Glu Ile Glu  
115

<210> 34  
<211> 112  
<212> PRT  
<213> Unknown

<220>

<223> Description of Unknown Organism: see Jeanmougin et al.,  
Trends in Biochem. Sci. 22:151-153 (1997)

<400> 34

His Asn Ala Pro Phe Asp Lys Thr Lys Phe Asp Glu Val Leu Glu Ala  
1 5 10 15  
Leu Val Gly Leu Lys Asp Asn Glu Gly Asn Pro Phe Asp Asp Ile Phe  
20 25 30  
Glu Glu Leu Pro Ser Lys Arg Tyr Phe Pro Asp Tyr Tyr Gln Ile Ile  
35 40 45  
Gln Lys Pro Ile Cys Tyr Lys Met Met Arg Asn Lys Ala Lys Thr Gly  
50 55 60  
Lys Tyr Leu Ser Met Gly Asp Phe Tyr Asp Asp Ile Arg Leu Met Val  
65 70 75 80  
Ser Asn Ala Gln Thr Tyr Asn Met Pro Gly Ser Leu Val Tyr Glu Cys  
85 90 95  
Ser Val Leu Ile Ala Asn Thr Ala Asn Ser Leu Glu Ser Lys Asp Gly  
100 105 110

<210> 35

<211> 113

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: see Jeanmougin et al.,  
Trends in Biochem. Sci. 22:151-153 (1997)

<400> 35

Gly Thr Asn Glu Ile Asp Val Pro Lys Val Ile Gln Asn Ile Leu Asp  
1 5 10 15  
Ala Leu His Glu Glu Lys Asp Glu Gln Gly Arg Phe Leu Ile Asp Ile  
20 25 30  
Phe Ile Asp Leu Pro Ser Lys Arg Leu Tyr Pro Asp Tyr Tyr Glu Ile  
35 40 45  
Ile Lys Ser Pro Met Thr Ile Lys Met Leu Glu Lys Arg Phe Lys Lys  
50 55 60  
Gly Glu Tyr Thr Thr Leu Glu Ser Phe Val Lys Asp Leu Asn Gln Met  
65 70 75 80  
Phe Ile Asn Ala Lys Thr Tyr Asn Ala Pro Gly Ser Phe Val Tyr Glu  
85 90 95  
Asp Ala Glu Lys Leu Ser Gln Leu Ser Ser Ser Leu Ile Ser Ser Phe  
100 105 110

Ser

<210> 36  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

<400> 36

Gly Thr Asn Glu Ile Asp Val Pro Lys Val Ile Gln Asn Ile Leu Asp  
 1 5 10 15  
 Ala Leu His Glu Glu Lys Asp Glu Gln Gly Arg Phe Leu Ile Asp Ile  
 20 25 30  
 Phe Ile Asp Leu Pro Ser Lys Arg Leu Tyr Pro Asp Tyr Tyr Glu Ile  
 35 40 45  
 Ile Lys Ser Pro Met Thr Ile Lys Met Leu Glu Lys Arg Phe Lys Lys  
 50 55 60  
 Gly Glu Tyr Thr Thr Leu Glu Ser Phe Val Lys Asp Leu Asn Gln Met  
 65 70 75 80  
 Phe Ile Asn Ala Lys Thr Tyr Asn Ala Pro Gly Ser Phe Val Tyr Glu  
 85 90 95  
 Asp Ala Glu Lys Leu Ser Gln Leu Ser Ser Ser Leu Ile Ser Ser Phe  
 100 105 110

Ser

<210> 37  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

<400> 37

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp  
 1 5 10 15  
 Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu  
 20 25 30  
 Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu  
 35 40 45  
 Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg  
 50 55 60  
 Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu  
 65 70 75 80  
 Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Leu Ile Tyr  
 85 90 95  
 Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys  
 100 105 110

Ile Glu

<210> 38  
 <211> 113

<212> PRT  
<213> Gallus gallus

<400> 38

Ser Pro Asn Pro Pro Lys Leu Thr Lys Gln Met Asn Ala Ile Ile Asp  
1 5 10 15  
Thr Val Ile Asn Tyr Lys Asp Ser Ser Gly Arg Gln Leu Ser Glu Val  
20 25 30  
Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu Leu  
35 40 45  
Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg Asn  
50 55 60  
His Lys Tyr Arg Ser Leu Gly Asp Leu Glu Lys Asp Val Met Leu Leu  
65 70 75 80  
Cys His Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Gln Ile Tyr Glu  
85 90 95  
Asp Ser Ile Val Leu Gln Ser Val Phe Lys Ser Ala Arg Gln Lys Ile  
100 105 110  
Ala

<210> 39  
<211> 114  
<212> PRT  
<213> Gallus gallus

<400> 39

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp  
1 5 10 15  
Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu  
20 25 30  
Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu  
35 40 45  
Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg  
50 55 60  
Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu  
65 70 75 80  
Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Val Ser Leu Ile Tyr  
85 90 95  
Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys  
100 105 110  
Ile Glu

<210> 40  
<211> 105  
<212> PRT  
<213> Homo sapiens

<400> 40

Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu  
1 5 10 15  
Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr  
20 25 30  
Asp Ser Thr Phe Ser Leu Asp Gln Pro Gly Gly Thr Leu Asp Leu Thr  
35 40 45  
Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser  
50 55 60  
Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn  
65 70 75 80  
Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln  
85 90 95  
Arg Phe Phe Glu Thr Arg Met Asn Glu  
100 105

<210> 41  
<211> 105  
<212> PRT  
<213> Mus musculus

<400> 41

Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu  
1 5 10 15  
Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr  
20 25 30  
Asp Ser Thr Phe Ser Met Glu Gln Pro Gly Gly Thr Leu Asp Leu Thr  
35 40 45  
Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser  
50 55 60  
Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn  
65 70 75 80  
Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln  
85 90 95  
Arg Phe Phe Glu Thr Arg Met Asn Asp  
100 105

<210> 42  
<211> 108  
<212> PRT  
<213> Mus sp.

<400> 42

Thr Lys Leu Thr Pro Ile Asp Lys Arg Lys Cys Glu Arg Leu Leu Leu  
1 5 10 15

```

<210> 43
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic bromodomain peptide

<220>
<221> MOD_RES
<222> (1)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(6)
<223> Any amino acid; this range may encompass 2-3 residues

<220>
<221> MOD_RES
<222> (8)..(15)
<223> Any amino acid; this range may encompass 5-8 residues

<220>
<221> MOD_RES
<222> (16)
<223> Pro, Lys or His

<220>
<221> MOD_RES
<222> (17)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (19)
<223> Tyr, Phe or His

<220>
<221> MOD_RES
<222> (20)..(24)
<223> Any amino acid

<220>
<221> MOD_RES

```

<222> (26)

<223> Met, Ile or Val

<400> 43

Xaa Xaa Phe Xaa Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Asp  
20 25

<210> 44

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic bromodomain peptide

<400> 44

Trp Pro Phe Met Glu Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr Tyr  
1 5 10 15

Glu Val Ile Arg  
20